

A NEW SUBSPECIES OF COMMON GROUND-DOVE FROM
ÎLE DE LA TORTUE, HAITI, WITH TAXONOMIC
REAPPRAISAL OF BAHAMAN POPULATIONS
(AVES: COLUMBIDAE)

Donald W. Buden

Abstract. — *Columbina passerina umbrina* is described as a new subspecies from Île de la Tortue, off the northern coast of Haiti. It differs from immediately adjacent populations in the Bahamas and Antilles chiefly in its darker coloration, at least in males. Bahaman populations of *C. passerina* vary clinally in size and coloration; *C. p. volitans* is treated as a synonym of *C. p. bahamensis*.

The Common Ground-Dove (*Columbina passerina*) is widespread in the West Indies where it occupies a broad range of habitats (Bond 1956, 1971). Bond (1956) recognized nine subspecies in this region and Schwartz (1970), in the most recent review of Greater Antillean and northern Bahamas populations, resurrected the additional name *C. p. aflavida* Ridgway for those on Cuba. Recent examination of specimens from the southern Bahamas (including Turks and Caicos Islands—geographically and geologically a part of the archipelago, but politically distinct) and from Île de la Tortue, off the northern coast of Hispaniola, together with comparative Antillean-Bahaman material provides evidence for other taxonomic changes suggested herein. All specimens I collected from the southern Bahamas have been deposited in the Louisiana State University Museum of Zoology (LSUMZ).

Methods

All linear measurements are in millimeters and were taken in the following manner: wing length as chord measured with a rule; tail length as the distance from base of tail to tip of longest rectrix, bill length as exposed culmen—both measured with dial calipers. Mensural data are in Table 1 and Fig. 1.

Color comparisons were made largely by eye but some samples were also analyzed with an Applied Color System Spectrosensor II Reflectance Spectrophotometer coupled to a DEC PDP 11/23 Mini Computer and the data processed via an ACS proprietary Chroma-Pac program. L, a, and b color values were obtained from three areas (each 1 cm in diameter) on each of 29 study skins—the middle of the back (=dorsum), the lower flank and/or abdomen (=venter), and the forehead (including part of the crown). The “L” scale measures paleness (0 = black, 100 = white), the “a” scale measures redness along a positive gradient and greenness along a negative gradient (0 = gray), and the “b” scale measures yellowness when positive and blueness when negative (0 = gray). Spectrophotometry data are in Fig. 2.

Comparisons between males are discussed at greater length than are those between females as I have examined far more of the former. Specimens identified

as “male?” or as “female?” on museum labels have been included in the samples of those sexes, respectively.

Bahaman Populations

Bond (1942) reported that the ground-doves in the extreme southern Bahamas are grayer and smaller than those on the northern islands; he later (Bond 1945) proposed the name *Columbigallina* (= *Columbina*) *passerina volitans* for populations on the Inaguas and the Turks and Caicos Islands retaining the name *C. p. bahamensis* (Maynard) for all other Bahaman populations. Common Ground-Doves from Great Inagua previously were included in the subspecies *C. p. exigua* Riley, along with those from Mona, a small island between Hispaniola and Puerto Rico (Hellmayer and Conover 1942). Specimens from Mona and the southern Bahamas are similar in paleness of coloration but the former are distinguished by their smaller size, especially in wing length (Bond 1945; Table 1, this account).

Mensural data for pooled samples from the “northern” Bahamas (New Providence, Fig. 1B; Eleuthera, Fig. 1C; and the Exumas, Fig. 1D, part) are given separately from those of the extreme southern islands (Great Inagua, Fig. 1G, and the Turks and Caicos Islands, Fig. 1H) in Table 1. The Crooked-Acklins district and Mayaguana (Fig. 1F) are intermediate geographically between the islands of these pooled samples. Bond (1945) indicated that a male and a female *C. passerina* he examined from this geographically intermediate region more closely resembled individuals from northern islands. However, the means in wing length and tail length for six males I examined from Crooked-Acklins and Mayaguana (81.9 and 56.3, respectively) are closer to those of my southern samples (Table 1). Individuals from this geographically intermediate region also are more similar to the southern birds in coloration. Furthermore, in comparing ground-doves from Rum Cay (also geographically intermediate between the pooled northern and southern samples—Fig. 1E, part) with those from New Providence, Todd (1913) stated that the former “are somewhat paler throughout—verging thus toward *C. p. exigua*.”

Figure 1 shows that variation in wing length among Bahaman males is clinal; those from the northern islands have longer wings, on the average, than do those from the south, though individuals from the Turks and Caicos Islands average slightly larger than expected from the trend in variation. Variation in tail length among these samples is more irregular, but southern birds average slightly smaller in this character too. There are no consistent differences in bill length between northern and southern samples; the base of the bill tends to be darker in southern birds but this difference is not constant.

I suggest that all populations of *C. passerina* in the Bahamas be included under *C. p. bahamensis* (Maynard), distinguished from all immediately adjacent subspecies by paler coloration and from those of Florida and Cuba by small size as well. Although specimens from the northern Bahamas tend to average darker and slightly larger than those from the southernmost islands, adjacent populations in the Bahamas overlap broadly in size and coloration. In this taxonomic interpretation, *C. p. volitans* (Bond) is merged with *bahamensis*. I follow Todd (1913) and others in treating *C. p. bermudiana* (Bangs and Bradlee) from Bermuda also as a synonym of *C. p. bahamensis*. These taxonomic conclusions based largely

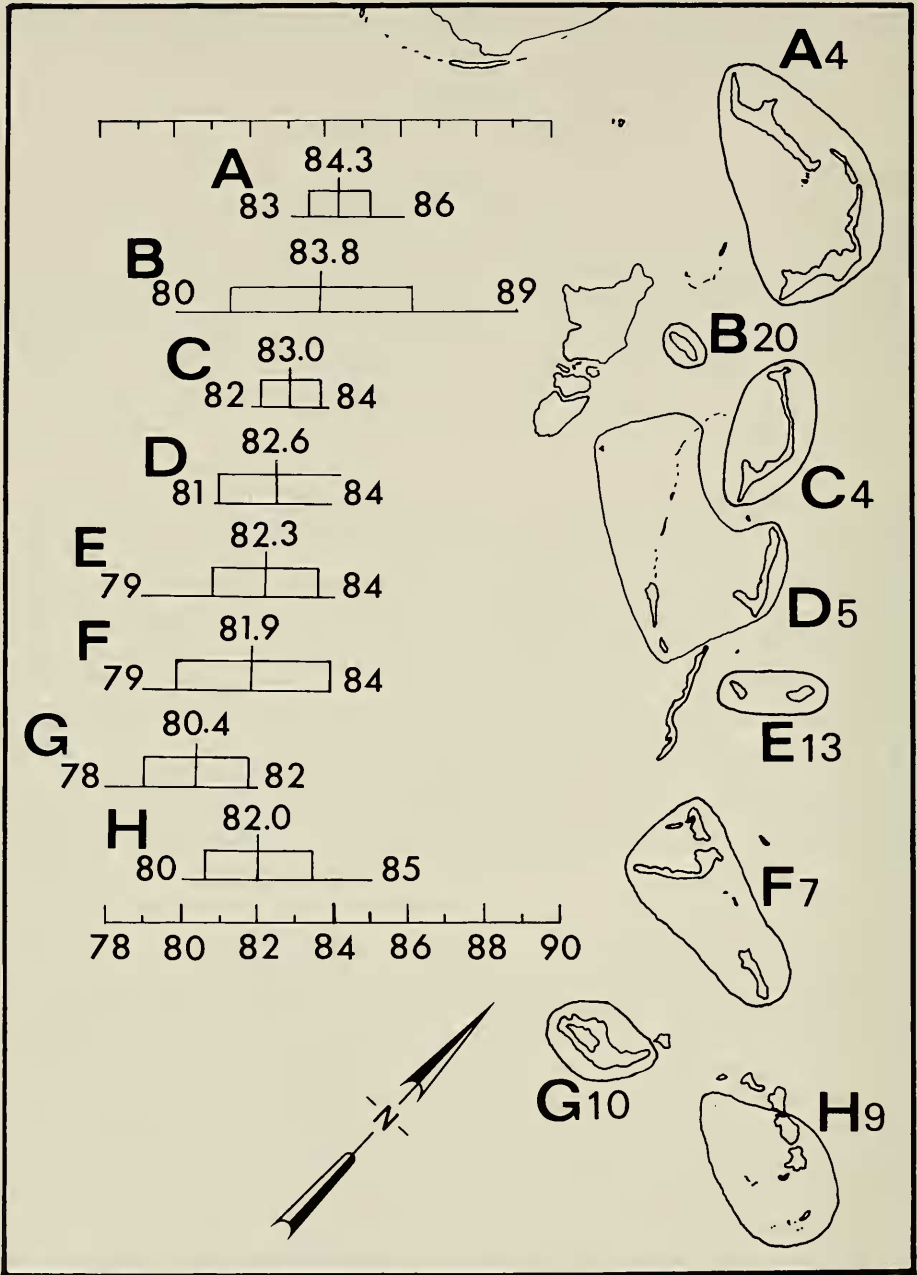


Fig. 1. Population-range diagram showing wing length in males of *Columbina passerina* from the Bahamas; horizontal line = range, vertical line = mean, open rectangle = one standard deviation on either side of the mean, numbers adjacent to encircled sample localities are sample sizes. Names of islands and number of specimens from each as follows: A—Grand Bahama 2, Abaco 2; B—New Providence 20; C—Eleuthera 4; D—Green Cay 1, Exumas 3, Cat Island 1; E—Rum Cay 9, San Salvador 4; F—Crooked Island 1, Acklins Island 2, Mayaguana 4; G—Great Inagua 10; H—Middle Caicos 4, East Caicos 1, French Cay 1, Grand Turk 3. All measurements in millimeters.

Table 1.—Measurements (in millimeters) of three characters for nine samples of *Columbina passerina* (males only). Each set includes range and sample size (row 1) and mean and twice the standard error of the mean (row 2). N. (northern) Bahamas = New Providence, Eleuthera, and Exumas; S. (southern) Bahamas = Great Inagua and Turks and Caicos Islands.

Location	Wing length	Tail length	Bill length
Florida	84.0–90.0 (11)	57.7–66.0 (13)	11.4–12.4 (12)
	88.2 ± 1.04	62.9 ± 1.46	11.8 ± 0.20
N. Bahamas	80.0–89.0 (27)	53.2–61.7 (23)	10.0–11.9 (27)
	83.6 ± 0.80	58.4 ± 0.96	10.9 ± 0.18
S. Bahamas	78.0–85.0 (19)	52.5–59.4 (20)	9.5 ± 11.8 (18)
	81.2 ± 0.74	56.6 ± 0.86	10.9 ± 0.24
Cuba	83.0–89.0 (34)	56.2–65.4 (32)	10.1–12.6 (23)
	85.9 ± 0.58	60.2 ± 0.78	11.0 ± 0.26
Jamaica	80.0–85.0 (18)	52.4–61.5 (16)	10.6–12.0 (15)
	82.8 ± 0.78	56.7 ± 1.28	11.5 ± 0.22
Hispaniola	79.0–87.0 (25)	50.5–60.0 (18)	10.0–11.4 (21)
	82.7 ± 0.72	55.5 ± 1.28	10.7 ± 0.20
Tortue	82.0–85.0 (6)	52.9–58.1 (6)	10.5–11.2 (4)
	83.3 ± 0.84	55.7 ± 1.60	10.7 ± 0.34
Mona	75.0–79.0 (13)	51.5–56.5 (12)	9.8–11.8 (14)
	77.5 ± 0.80	54.4 ± 1.02	10.7 ± 0.26
Puerto Rico	79.0–85.0 (11)	53.3–61.2 (12)	9.7–11.2 (10)
	81.9 ± 1.08	56.7 ± 1.52	10.6 ± 0.36

on comparisons between males are not contradicted by the data from the relatively small samples of females.

The Tortue Population

Île de la Tortue, second largest of the Hispaniolan satellite islands, is about 35 km long and 7 km wide, the long axis roughly parallel to the northern coast of mainland Haiti, which is as near as 8 km to the south. Tortue is about 100 km south of Great Inagua in the Bahamas and about 120 km east of the easternmost tip of Cuba.

Wetmore and Swales (1931) reported that specimens of *C. passerina* from Tortue that they examined are darker than those from Hispaniola and they attributed this difference as due seemingly to wear and stain. They included the ground-doves of the immediate Hispaniolan region (excluding Navassa, a United States Island possession ca. 55 km west of Cap des Irois, Haiti) as well as those from Cuba and the Cayman Islands all in the subspecies *C. p. insularis* Ridgway. Schwartz (1970) treated the Cuban populations as members of a separate subspecies, *C. p. aflavida* Ridgway, followed Bond (1956) in treating *C. p. navassae* (Wetmore) as a synonym of *C. p. insularis*, and listed the specimen from Tortue that he examined also under *insularis*. Recently, I examined all of the Tortue material of *C. passerina* available to Wetmore and Swales (1931)—six males and one female collected by W. L. Abbott in the period 30 January–4 February 1917. I am not aware of any other specimens of *C. passerina* from Tortue.

The specimens from Tortue and Hispaniola resemble each other mensurally but there are differences in coloration confirmed by reflectance spectrophotometry (Fig. 2) that I do not ascribe to wear or stain. Males from Tortue are darker than are "mainland" males. In the former, the dorsum is more brown and less gray, the venter is more deeply vinaceous, and the forehead is darker and tinged more with buff (USNM 250544 from Tortue, with a matted, discolored crown, has been omitted in forehead comparisons). Also, make of skin notwithstanding, the pale, blue-gray, squamate pattern on the nape appears less extensive and generally not so bright in specimens from Tortue as in those from Hispaniola and Cuba. In Cuban males, the pale area of the forehead tends not to be so extensive nor so well demarcated as in specimens from Tortue and Hispaniola. Cuban males are somewhat variable in depth of coloration; some are as pale as Bahaman or Hispaniolan birds. But on average the Cuban sample is darker than those from the Bahamas and Hispaniola, though not so dark (at least on the venter) as those from Tortue.

Specimens from Île de la Gonâve resemble those from the Haitian mainland (as do those from Navassa) but one from Isla Beata is more reddish-brown than are the other MCZ specimens from the Hispaniolan area. I have not seen specimens from the other satellite islands whence *C. passerina* has been reported (Île-à-Vache, Catalina, and Saona).

Hispaniolan specimens analyzed by spectrophotometry all are from "north island" localities as follows: Haiti: Rivière Bar (=Rivière des Barres) 1, Moustique 1, 1 mi S Ft. Liberté 1, 2 mi S San Rafael (=St. Raphael) 1, 4 mi SE Cerca-la-Source 2, 1 mi E St. Marc 1, Montrouis 1, 3 mi NW L'Arcahaie 1; Dominican Republic: Sosúa 4, Sánchez 1. With the exception of USNM 573635, taken at Montrouis in 1971, and MCZ 41849, an H. Bryant skin from Cuba probably taken in the middle 1800's, all in Fig. 2 were collected in the years 1904 to 1931, the Tortue specimens all in 1917.

The males from Tortue are much darker (dorsally and ventrally) than are those from the Bahamas. Mensurally and chromatically, they are very similar to examples of *C. p. portoricensis* from Puerto Rico and the Virgin Islands. The dark spotting on the breast tends to be slightly more prominent in examples of *C. p. portoricensis*, but this is at best a slight average difference when series are compared; greater differences in coloration are evident between the female from Tortue and those from the Puerto Rican Bank.

The female from Tortue is similar (chromatically and mensurally) to those from Hispaniola. It matches well examples from the Bahamas although many of the latter have less buff on the venter and are paler and more gray on the dorsum. The Tortue female is paler on the venter (more white and buff, less gray and brown) than are females of *C. p. portoricensis* from the Virgin Islands and of *C. p. aflavida* from Cuba and the Isle of Pines—MCZ specimens from the Isle of Pines tend to average slightly darker (in both sexes) than do those from Cuba. The Tortue female is paler and less buffy on the venter than are females from Jamaica and the proximal half of its bill lacks the pale coloration eminent in skins of both sexes from that island.

For the population of *C. passerina* on Tortue, distinguished from adjacent populations by differences in size (at least in wing length) and/or coloration, I propose the name

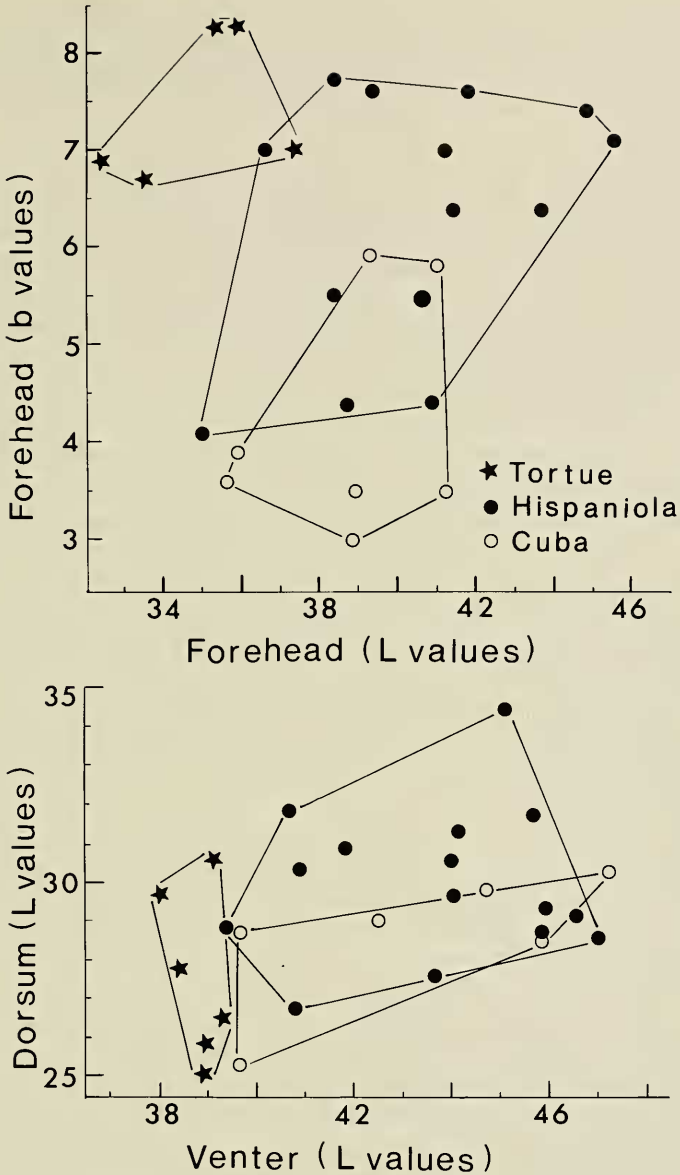


Fig. 2. Spectrophotometry data for male *Columbina passerina* from three islands in the Greater Antilles; instrumentation and terminology explained under methods.

Columbina passerina umbrina, new subspecies

Holotype.—USNM 250356, male, Île de la Tortue, Haiti, collected 2 Feb 1917 by W. L. Abbott.

Characters.—Males of *Columbina passerina umbrina* differ from those of related subspecies in the Greater Antilles and the Bahamas as follows: darker (more brown, less gray) dorsally and more deeply vinaceous ventrally than *bahamensis*

and *insularis*; larger and darker (above and below) than *exigua*; dorsum darker than in *jamaicensis*, and with proximal half of bill (in study skins) much darker; smaller than *aflavida*, with more reddish-brown hue on venter, with base of bill usually paler, and with blue-gray, squamate pattern on nape usually not so bright nor so extensive.

Although males of *umbrina* are similar to those of *portoricensis*, chromatically and mensurally, females of *portoricensis* are darker (more brown and more gray) below than is the female *umbrina*, which is similar to females of *insularis* and matches well also examples of *bahamensis*, though many of the latter tend to have less buff on the venter and are paler (more gray, less brown) on the dorsum. The female *umbrina* is less buffy below and is darker on the basal half of the bill than are females of *jamaicensis*, and it has more white (less gray) and more buff ventrally than do female *aflavida*.

Range.—Known only from Île de la Tortue, off the northern coast of Haiti.

Etymology.—From the latin word *umbra*, a shadow, an area of dark color, in allusion to the darker coloration of males of this subspecies when compared with those from immediately adjacent islands.

Remarks.—None of 28 species of land birds (Falconiformes and Columbiformes through Passeriformes) recorded from Tortue, and that breed or possibly breed there, is endemic to the island. But *Columbina passerina umbrina* brings to four the number of subspecies of birds known only from Tortue. Among them, *C. p. umbrina*, *Coereba flaveola nectarea*, and *Loxigilla violacea maurella* almost certainly were derived from populations on adjacent Hispaniola, whereas the Bahamas are the most likely source (on geographic grounds) of the population of *Vireo crassirostris tortugae*, a species found nowhere else in the Hispaniolan region.

Columbina passerina, *Coereba flaveola*, and *Loxigilla violacea* all are widespread and common in the Greater Antilles and the Bahamas. In the Hispaniolan region, each occurs on several satellite islands as well as on the main island, and the weight of available evidence indicates that the most distinctive population there, mensurally and/or chromatically, in each case is on Tortue. Individuals from Tortue differ from their "mainland" relatives, at least in part, by their darker coloration—*Columbina passerina umbrina* is darker brown and more deeply vinaceous than is *C. p. insularis*, *Coereba flaveola nectarea* has a darker gray throat than does *C. f. bananivora*, and *Loxigilla violacea maurella* has a deeper and more glossy black plumage than does *L. v. affinis*. Also, *Vireo crassirostris tortugae* has more buff or brown color (and less white) on the venter than do related subspecies.

Examples of *Chordeiles gundlachii* from Tortue also differ from those on Hispaniola, though in this case the Tortue specimens are paler; they have been assigned to the "Bahaman subspecies" *Ch. minor* (= *gundlachii*) *vicinus* by Wetmore and Swales (1931).

Specimens Examined

Columbina passerina passerina.—FLORIDA: MCZ (13M).

Columbina passerina bahamensis.—BAHAMA ISLANDS: Grand Bahama MCZ (2M); Abaco USNM (1M); Great Guana Cay MCZ (1M); Andros AS (1M); New

Providence AMNH (8M 5F), FMNH (1M), MCZ (8M 8F), USNM (4M); Eleuthera (including Current Is.) FMNH (1M), MCZ (1F), USNM (3M); Cat Is. USNM (1M); Exumas, Highborne Cay MCZ (1M), Farmer's Cay MCZ (2F), Great Exuma MCZ (2M); Green Cay USNM (1M); Ragged Is., Nurse Cay USNM (1M); San Salvador USNM (4M); Rum Cay USNM (9M); Crooked Is. LSUMZ (1M 1F); Acklins Is. USNM (2M); Mayaguana LSUMZ (4M); Great Inagua AMNH (2M 1F), FMNH (7M), MCZ (2M 1F), USNM (1M). TURKS AND CAICOS ISLANDS: North Caicos LSUMZ (1F); Middle Caicos LSUMZ (4M? 1F), USNM (1M); East Caicos LSUMZ (1M?); South Caicos MCZ (1F); French Cay USNM (1M); Grand Turk LSUMZ (2M 1M? 1F). BERMUDA ISLANDS: MCZ (5F).

Columbina passerina aflavida.—CUBA (by province): Pinar del Rio USNM (1M); La Habana FMNH (3M), UMRC (1M), USNM (1M), YPM (2M); Matanzas FMNH (2M); Cienfuegos MCZ (1M), YPM (1M); Villa Clara MCZ (2M), YPM (2M); Las Tunas UMRC (2M); Holguin MCZ (4M 3F), USNM (2M); Santiago de Cuba USNM (1M); Guantánamo MCZ (3M 1F), USNM (7M). Province not indicated—Cuba (no other locality) MCZ (1M 2F). Isla de Pinos: MCZ (4M 4F).

Columbina passerina jamaicensis.—JAMAICA: FMNH (1M), MCZ (14M 4F), PB (1M), USNM (1M), YPM (1M).

Columbina passerina insularis.—HISPANIOLA: Haiti AS (3M), FMNH (1M), MCZ (1F), USNM (14M), YPM (1M); Dominican Republic AS (1M), FMNH (9M), MCZ (7M, 4F), USNM (1M). ÎLE DE LA GONÂVE: UF (1M), USNM (6M), YPM (1M). ISLA BEATA: MCZ (1M). NAVASSA: MCZ (1M), UF (1M). CAYMAN ISLANDS: Grand Cayman AS (1M), MCZ (6M), Little Cayman AS (1M), Cayman Brac MCZ (4M).

Columbina passerina umbrina.—ÎLE DE LA TORTUE: USNM (6M 1F).

Columbina passerina exigua.—MONA ISLAND: AS (1M), FMNH (10M), USNM (3M).

Columbina passerina portoricensis.—PUERTO RICO: MCZ (2M), USNM (10M). VIRGIN ISLANDS: St. Thomas MCZ (3M 1F); Tortola MCZ (4M 1F); Anegada MCZ (1F).

Acknowledgments

For making comparative material available, I thank the curators and supporting staff of the following museums and collections: American Museum of Natural History (AMNH); Albert Schwartz collection, Miami, Florida (AS); Field Museum of Natural History (FMNH); Louisiana State University Museum of Zoology (LSUMZ); Museum of Comparative Zoology, Harvard University (MCZ); Pierce Brodkorb collection, Gainesville, Florida (PB); Florida State Museum, University of Florida (UF); University of Miami Reference Collection (UMRC); National Museum of Natural History (USNM), Yale Peabody Museum (YPM).

I thank Albert Schwartz for reviewing the manuscript and Raymond A. Paynter, Jr. and Alison Pirie for their assistance during many visits to the MCZ as well as for storage of specimens on loan from other museums. I am especially grateful to Storrs Olson, Charles Ross, and George Watson for the loan of USNM specimens of *C. passerina* from Tortue.

The spectrophotometer was made available at Reed Plastics Corporation, Holden, Massachusetts courtesy of Lawrence Sheftel, President, and Ron Harris,

Technical Manager; Dr. Harris gave most generously of his time and laboratory expertise.

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Worcester Science Center, Harrington Way, Worcester, Massachusetts 01604.